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Monitoring progress in the implementation of the proposals for action of the Intergovernmental Panel on Forests

Note by the Secretariat

SUMMARY

The implementation of the Intergovernmental Panel on Forests (IPF) proposals for action and the continued international dialogue in the Intergovernmental Forum on Forests (IFF) were initiated after the nineteenth special session of the General Assembly. These parallel processes provide unique opportunities for monitoring, reviewing and reporting. This note covers these topics and identifies opportunities to:

(a) Identify existing data and information sources relevant to management, conservation and sustainable development of all types of forests;

(b) Develop a framework for assessment in the long term;

(c) Identify parameters associated with issues reflecting the IPF/IFF programme of work to discern progress, preferably ones that are measurable and already collected;

(d) Encourage and support ongoing efforts to create synergies and compatibility among a set of fairly fragmented data collections.

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It should be recognized that any data collected by countries for regional and global purposes should have a tangible value at the national level. Consequently, monitoring, assessment and reporting requirements at the regional or international levels need to be integrated into national forest programmes and the development of criteria and indicators for sustainable forest management.

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I. INTRODUCTION

1. The intergovernmental discussions on forests of the United Nations Conference on Environment and Development (UNCED), the former Intergovernmental Panel on Forests (IPF) and its successor the Intergovernmental Forum on Forests (IFF), as well as other international discussions, attest that forests are no longer viewed from a purely conservationist, economic or industrial perspective. The implementation of the agreements and recommendations stemming from these processes will require concerted action and allocation of resources in the short, medium and long terms. The main tools and actors for this implementation are primarily dealt with under programme element I.a, "Facilitation and promotion of implementation" (E/CN.17/IFF/1998/2), as well as under programme element II.e, "Forest-related work of international and regional organizations" (E/CN.17/IFF/1998/5). Both these issues will receive substantive discussion at the second session of IFF. With the recognition that forests provide multiple benefits and have diverse constituencies, that trends and policies in other sectors have an impact on the state of forests, and that implementation of sustainable forest management requires diverse tools and actors, follows the need to assess progress towards sustainable forest management and to base policies affecting forests on the best information available. It is fundamentally the need to assess progress at the national level that will then drive and provide the basis for any assessment undertaken at other levels of aggregation, i.e., regional and/or global.

II. MANDATE AND SCOPE

A. Mandate

2. At its first session, IFF decided that the work of its forthcoming sessions should be conducted according to three interlinked categories, which should receive balanced intergovernmental attention.

3. The first of these three categories, "Promoting and facilitating the implementation of the proposals for action of the Intergovernmental Panel on Forests, and reviewing, monitoring and reporting on progress in the management, conservation and sustainable development of all types of forests", contains two elements: I.a and I.b. The focus of the present note is programme element I.b, "Monitoring progress in the implementation of the proposals for action of the Intergovernmental Panel on Forests". The report of the Secretary-General on programme element I.a (E/CN.17/IFF/1998/2) deals with the facilitation and promotion of implementation.

4. At its first session, the Forum decided that programme element I.b would receive background discussion at its second session. The Forum also decided that the background and substantive discussions on programme element I.b should be guided by the following mandate:

> Monitoring progress in implementation: consider the mechanisms, process and format for reviewing, monitoring and reporting on progress; and assess progress in implementation, inter alia, by countries, United Nations

agencies, other international organizations and major groups, including the private sector, and indigenous people, forest dwellers, forest owners and local communities.

B. Scope

5. The purpose of the present note is to assist IFF in its background discussion on the mechanism, process and format for reviewing, monitoring and reporting, and to assess progress in the management, conservation and sustainable development of all types of forests. It is assumed that no new reporting and/or data-collection mechanism at the international level would be initiated during the current IFF process. Rather, a discussion could be initiated on the form that such monitoring, reviewing and reporting could take in the medium and long terms, at the national, regional and global levels, while taking advantage of already ongoing discussions within the United Nations system on streamlining of reporting. Accordingly, the note provides a short review of some information sources for forest-related data and information, and then suggests an approach to review how available data sources can be used and integrated for intergovernmental assessment.

III. INFORMATION AND DATA GATHERING ON FORESTS

6. In order to provide an initial overview of the mechanisms that are available and could be used to analyse progress achieved in the management, conservation and sustainable development of all types of forests, a few examples and short descriptions of some forest-related information-gathering activities within the United Nations system and elsewhere are provided below.

A. United Nations

7. A number of organizations gather forest-related data and/or information; countries and others, such as correspondents, report periodically to them. Most notable here are the Food and Agriculture Organization of the United Nations (FAO) and the Economic Commission for Europe (ECE), as well as United Nations Industrial Development Organization (UNIDO).

1. Food and Agriculture Organization of the United Nations

Forest resource assessment

8. FAO collects information on different types of forest worldwide from national focal points. The scope is global and the data are collected and published every 10 years, with an update every five years. This exercise is also complemented by a capacity-building and technical assistance programme for national and regional forest assessment and information collection. This assessment is unique in that it collects national information for regional and global aggregation, which is widely used all over the world. The Forest Resource Assessment 2000 is much wider in substantive scope than has been the

case for previous assessments. It not only includes forest cover but also requests information on biological diversity and protection status; wood supply and carbon sequestration functions; forest conditions; forest fires; non-wood goods and services; and protective and socio-economic functions.

Trade data and production data

9. Country-level data on production, imports and exports of different wood forest products, in terms of both value and volume, are also collected by FAO. Its scope is global and is collected annually from national focal points and designated correspondents. This information is available on the FAO Web pages through an interactive database.

Pulp and paper capacities survey

10. FAO also collects data on pulp and paper production capacities, organized by country and product. The survey is based on information provided by national focal points, correspondents and secretariat estimates. This annual survey is global in scope, and includes five-year projections.

Forest-sector financing and investments

11. FAO collects data on official development assistance and other investment and financing data to support its forest sector monitoring. These data are periodically collected through national focal points and correspondents. The collection is global in scope, and includes projections and FAO estimates.

Monitoring of national forest programmes

12. FAO is the repository for national forest programmes and monitors implementation through FAO's country and regional advisers in the field. Collection and updating of this information takes place on a continuous basis.

State of the World's Forests

13. FAO started publishing this overarching report on the state of the world's forest four years ago upon the recommendation of the High-Level Advisory Group on Forests convened in 1994 to give advice on FAO's work on forests. The report aims to fill a very important gap of easy-to-access and understandable information on issues that affect forests, to be used by the public, policy makers and others. So far, two issues have been published, in 1995 and in 1997; the third issue will become available in 1999.

14. The State of the World's Forests assesses information on forests available to FAO both in-house and from other sources. It includes an aggregated version of the latest data from the Forest Resource Assessment, as well as on past and future trends. The latest issue had special sections giving regional perspectives on the state of forests. The two 1995 and 1997 issues included chapters highlighting policy developments relevant to forests, both in the forest sector itself as well as in other sectors affecting forests, such as agriculture. The reports have also covered such aspects as economic and social development in the forest sector, as well as environmental aspects, such as

conservation, and forests' contribution to environmental stability. In the foreword of the 1997 issue, FAO specifically stated its intention to form partnerships with those doing related work in order to cast its net wider and capture more information and data in order to present a more complete picture of the world's forests.

2. United Nations Industrial Development Organization

15. UNIDO collects data on the manufacturing sector, including wood and pulp and paper industries. Its Industrial Statistics Yearbook contains information on wood products, furniture and paper and paper products manufacturing, collected from national sources, as well as UNIDO's own estimates. UNIDO also has a commodity balance statistics database, which contains data on different grades of wood pulp, boards etc. traded as commodities.

3. Economic Commission for Europe

16. ECE, in collaboration with FAO, collects and reports on data on forests in Europe and North America, covering both forest quantity and forest quality. ECE is the repository for data on forests affected by pollution. It also collects trade and production data. ECE work is used for the Forest Resource Assessment, which is coordinated by FAO.

4. Department of Economic and Social Affairs of the United Nations Secretariat

United Nations Statistics Division

17. In the United Nations Statistics Division, work is progressing in compiling environmental indicators from national statistical services based on a core set of indicators, as approved by the Statistical Commission at its twenty-eighth session. The Division, a part of the Department of Economic and Social Affairs of the United Nations Secretariat, is also preparing a manual on environmental statistics and indicators. The manual will contain concepts, definitions, classifications and descriptions of data sources, tabulations and data uses for environmental indicators. The Division also collects information on fuelwood use as part of its energy statistics programme.

National reports

18. The Division for Sustainable Development is the repository for the national reports on progress in implementing Agenda 21, in accordance with the Commission on Sustainable Development's programme of work. Countries are requested to submit national reports each year on a voluntary basis, focusing on the programme of work of the Commission of any particular year. It has requested information on forests, twice - in 1995, when chapter 11 of Agenda 21 and the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles) were on the Commission's agenda, and in 1997 for the

country profiles presented at the nineteenth special session of the General Assembly. It will request information on forests again for the eighth session of the Commission in the year 2000, when forests will be on the agenda.

Work programme on indicators of sustainable development and international work programme on changing consumption and production patterns

19. The Division for Sustainable Development is responsible for the work programme on indicators of sustainable development. This ongoing work programme has developed a working list of indicators of sustainable development, divided into four categories - social, economic, environmental and institutional. Three types of indicators have then been identified for each category: driving force indicators, state indicators and response indicators. For chapter 11 of Agenda 21 on combating deforestation, the driving force indicator is wood harvesting intensity; the state indicator is forest area change; and the response indicator is managed forest area ratio and protected forest area as a percentage of total forest area.

20. Within the Division and under the work programme of the Commission, there is also ongoing work on measuring critical trends in consumption and production patterns. The current challenge of the work programme is to identify a provisional core set of indicators. In monitoring the sustainability of land use, the work programme has proposed a set of indicators involving forests, such as land use per sector, per capita and/or as a percentage of total land area; land use change per sector as a percentage change over unit of time; change in land condition. It has also proposed subsidies for agricultural inputs, as a percentage of their price, among others.

5. United Nations Environment Programme

21. The United Nations Environment Programme (UNEP) has collected country studies on biodiversity that to a large extent should be relevant to forests. It also has the Global Resource Information Database (GRID) Meta Directory, the Infoterra database and a database on environment economics, containing mostly publications. It has also produced the Global Biodiversity Assessment, the Environmental Data Report, the Global Outlook and the World Atlas of Desertification.

6. United Nations Development Programme

22. The United Nations Development Programme (UNDP) organized and convened an expert meeting in Israel in March 1997 on synergies in national implementation of the UNCED agreements, i.e., the Forest Principles, the Convention on Biological Diversity, the United Nations Convention on Combating Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa and the United Nations Framework Convention on Climate Change. Among the topics raised at the meeting was the issue of information, monitoring and reporting.[1] The meeting concluded that there were three areas of physical overlap among the agreements, among them the role of forests. It was recommended that a core data set on forest type and extent serve the need for

forest background information for each of the instruments. In addition, modifications to forest inventory methods by including data of interest to other instruments and the development of common definitions of terms and indicators could go a long way in creating the necessary synergies and avoid duplication of data collection. This meeting also identified a set of forest-related information needs common to most of the instruments, including forest area/extent; forest type; species composition; distribution by zone (altitude, climate); status of naturalness; forest condition and health; common flora and fauna; forest density; forest age structure; regeneration type and rate; deforestation (area by type); afforestation (area, by type); timber use and fate; site location (elevation, slope, aspect); growing stock/biomass; and canopy information.

B. Regional organizations

1. Southern Africa Development Community

23. The Southern Africa Development Community (SADC) Forestry Sector Technical Coordination Unit,[2] located in Malawi, collects data on the region's forest resources and utilization. These data are made available on the Internet in the form of searchable databases. The databases are divided into six categories: human resources, education and training; forest resources; basic data, including economic indicators, donors active in forests in the region and non-governmental organizations; forest research; forest utilization; and forest economics.

2. Association of South-East Asian Nations

24. The Association of South-East Asian Nations (ASEAN) Institute of Forest Management,[3] located in Malaysia, has a resource inventory section, which develops resource inventory and monitoring techniques of forest resources in the region. The Institute also provides technical advice and training, and develops standard multiple resource inventory methodologies.

C. International conventions and agreements

1. United Nations Framework Convention on Climate Change

25. The Conference of Parties to the Convention report on both the amount of carbon stored in forests and emissions of carbon resulting from land-use changes, such as through harvesting and deforestation.

2. Convention on Biological Diversity

26. Parties to the Convention on Biological Diversity have submitted their first national reports on measures taken for the implementation of the provisions of the Convention. In accordance with decisions of the Conference of the Parties, these reports focused on the implementation of article 6 of the Convention, concerning the development of national biodiversity strategies and

action plans, and the integration of biological diversity conservation and sustainable use into sectoral and cross-sectoral planning and policy. The fourth meeting of the Conference of the Parties (held at Bratislava in May 1998) considered a synthesis of the information contained in the 107 reports so far received. The Conference of the Parties adopted a further decision on national reports (decision IV/14), as well as a decision on forest biological diversity (decision IV/7).

3. Convention on combating desertification

27. UNEP produced the World Atlas on Desertification, inter alia, as a contribution to the United Nations Convention on Combating Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. Data on climate, soil degradation and vegetation were combined and analysed using geographical information systems. The Atlas provides a valuable reference point for future monitoring, assessment and reporting within the Convention.[4]

4. International Tropical Timber Agreement

28. The International Tropical Timber Organization collects data related to market and trade information of tropical timbers, such as production, import, export and log prices. It also inquires about such topics as tariffs, incentives and disincentives that could affect trade. ITTO also collects data on species composition and the use of lesser-used species in trade, capacities in forest products industries, as well as the general market situation for tropical timber, such as housing starts. ITTO also has several projects for assisting parties in data collection and gathering market information.

D. Non-governmental organizations

1. World Conservation Monitoring Centre

29. The World Conservation Monitoring Centre (WCMC), together with the Centre for International Forest Research (CIFOR), has recently produced a significant amount of data and analysis on the protection status of the world's forests, including data on forest location, by type, and the amount of each type protected in each region of the world; data can be easily accessed through WCMC's Web pages.[5]

2. World Resources Institute

30. The World Resources Institute (WRI), in its publication World Resources, presents data on forests cover, deforestation etc., mainly using data from FAO. In the 1996-1997 issue of this publication, WRI estimated, based on FAO deforestation data, the levels of carbon dioxide emissions from other than industrial processes, including those stemming from land-use change. WRI

provides independent analysis, conclusions and recommendations on resource use as a whole, including forest lands.

E. Commercial

31. Several private companies collect and analyse data for a fee. These companies focus particularly on the forest and forest products industry. For example, the 1997 Southern Hemisphere Forest Industry Yearbook[6] contains data on afforestation, wood flows, pulp and paper, solid wood manufacturing and panels and boards for Chile, New Zealand, Australia, South Africa, Brazil, Uruguay and Argentina. Some financial and marketing data can also be found on the Internet. In some cases, there are links to stock and other exchange market information on traded forest products and pulp and paper or wood-related firms, options, futures, funds and indices. Many of these are updated on a daily basis.

IV. MECHANISM, PROCESS AND FORMAT FOR REVIEWING, MONITORING, REPORTING AND ASSESSING PROGRESS IN THE MANAGEMENT, CONSERVATION AND SUSTAINABLE DEVELOPMENT OF ALL TYPES OF FORESTS

A. Background

32. The Forum recognized the need to clarify the approaches towards measuring progress in management, conservation and sustainable development of all types of forests in a systematic and coordinated fashion. At all levels, many of the existing data and information sources are fragmented, in terms of both subject and location of the repository. This might not necessarily pose a problem since data on specific topics, such as forest biodiversity or forest investments, ought to be collected with a comparative advantage by an organization that is directly concerned with the topic and possesses relevant expertise.

33. Many reports are available on issues that have an impact on forests. However, they are not necessarily produced with forests as a primary focus. Much of the data involved do have relevance to forests, but their analysis, review and reporting might not specifically deal with forests . There are relatively few examples of integrated analysis, interpretation and reporting on forests. One notable exception is the recently launched State of the World's Forests, published biannually by FAO.

34. To design the structure and operationalize a mechanism, process and format for reviewing, monitoring, reporting and assessing progress takes several years. Therefore, for the third session of the Forum, quantitative information is not expected to be available to permit an assessment of progress made in the management, conservation and sustainable development of all types of forests since the formulation of the IPF proposals for action little more than a year ago. Nor is it envisaged that available information will show that the IPF proposals for action have had any discernible impact on the actual bio-physical state of the world's forests. Very few, if any, of the IPF proposals for action entailed any specific target against which countries could easily measure progress. Most of the proposals for action urge countries, major groups and

international organizations to promote the application of certain guidelines, principles and/or agreed concepts in formulating and developing strategies for forests and forest-related issues. It is important to note, however, that a large number of national, regional and international initiatives have been launched by countries, international organizations and major groups (see E/CN.17/IFF/1998/2).

B. Possible parameters

35. Regardless of level (i.e., national, regional and/or global), it would be important to decide at the onset what needs to be measured and assessed, as well as the level of accuracy needed. The parameters against which progress can be assessed should ideally be simple, collected periodically, and allow meaningful and insightful policy analyses and assessments.

1. Link between indicators and assessment

36. The Intergovernmental Panel on Forests, in its report on its fourth session (E/CN.17/1997/12), concluded, inter alia, that forests constitute a cross-sectoral issue, and that there is a need for a broad spectrum of quantitative, qualitative and descriptive indicators covering social, cultural, economic, ecological, institutional, and legal and policy elements. Although the Panel had divergent views on the merits of a core set of criteria and indicators for use at the global level, they recognized that the dialogue should continue in order to improve consistency in reporting on forest assessment and sustainable forest management. For example, the Group of Eight industrialized countries, at its summit at Birmingham, United Kingdom, in 1998, also acknowledged that criteria and indicators provide a common framework for describing, monitoring and assessing, over time, progress towards sustainable forest management. The link between the national level and the FAO global Forest Resources Assessment is important in providing consistent, reliable and compatible forest data on a global basis.[8]

37. In due course, a harmonized and compatible core set of criteria and indicators might become a useful tool available to decision makers at all levels in the forest sector. The lack of a core set of criteria and indicators does not deter from the fact that there are collections of forest-related data that have national, regional or global scope and that have been collected over a period of time which could be used to discern progress. A positive aspect of the ongoing criteria and indicator processes is that data and information needs are identified primarily for their value to national efforts.

38. Over the long term, the criteria and indicator processes will provide invaluable and finely tuned instruments not only for national and subnational efforts but also for international assessments. IFF, as a policy forum, presumably would not need or want to examine the same level of detail as, for example, a scientist or other professionals involved in sustainable forest management at the national, subnational and forest management unit levels. In contrast to most national-level efforts, IFF may wish to consider elements of a framework that can be used as a broad and simple diagnostic tool for assessing

progress, preferably by using already available highly aggregated data, parameters and mechanisms.

2. Framework

39. Whatever parameters one chooses to use, it is obvious that the level of economic development, type and amount of forest in a particular country, as well as social conditions, will determine in what areas and at what pace progress can be achieved and measured at a particular point in time. Progress in individual parameters used to assess management, conservation and sustainable development of all types of forests will not be even at all times, neither globally, regionally nor at the country level.

40. It would be preferable to review progress that takes into account both development level and extent of forests cover of countries. One possibility would be to review and assess progress within the typology of countries with (a) low per capita income and low per capita forest cover; (b) low per capita income and high per capita forest cover; (c) high per capita income and low per capita forest cover; and (d) high per capita income and high per capita forest cover.

41. This kind of approach could possibly identify: (a) commonalties among countries facing similar priority areas of concern, as well as (b) the parameters, (c) factors and (d) interventions in forest-related policies and sectors that have been critical in the past and possible lessons that can be learned.

42. The Forum may wish to identify a framework and broad areas for monitoring, reviewing and reporting. This framework could encompass levels of economic and social development and environmental protection, and/or management, conservation and sustainable development of all types of forests; or a mix of both. Organization of the data at the national, regional/eco-regional and global levels would provide additional valuable perspectives. Reaching a consensus on how to array the many core issues on the IPF/IFF agendas, either for the purpose of monitoring, reviewing and reporting or to identify possible elements, is a critical task for the Forum.

43. It is proposed that the Forum consider clustering issues that reflect the IPF/IFF programme of work into the following categories: (a) economic development, (b) social development, and (c) environmental protection/ecological considerations, with an additional component of (d) institutions and policy instruments. This approach is consistent with the frameworks followed by most criteria and indicator processes, as well as with the conclusions and proposals for action by IPF.

44. In order to assist monitoring at the global level, the Forum may also wish to subdivide the above categories, as follows:

(a) Economic development:

(i) Supply and demand of wood and non-wood forest products and services;

(ii) Value of international cooperation;

(iii) Value of forest and forest products industry investments;

(iv) Value of international trade in forest products and services;

(b) Social development:

(i) State and level of forest-related education and training;

(ii) Forest ownership and user-rights patterns;

(iii) State and level of forest-related employment;

(iv) Level of participation by local populations in decision-making, resources management and benefit sharing;

(c) Environmental protection:

(i) Forest cover, changes; quantity and quality;

(ii) Level of forest conservation and protection;

(iii) State of forest services: biodiversity, carbon sinks/reservoirs, soil and water;

(d) Institutions and policy instruments:

(i) National forest programmes: implementation;

(ii) Criteria and indicators: implementation;

(iii) Forest assessments: implementation;

(iv) Economic instruments and tax policies: implementation.

C. Possible models

45. Within the overall framework of national forest programmes, a possible model could be designed with the objective of achieving an integrated and cross-sectoral assessment of progress in the management, conservation and sustainable development of all types of forests. The Forum has decided that such a model should contain monitoring, reviewing, reporting, and assessment for policy-making. National, regional and international policy and decision makers could then decide on further actions needed. Even if such a framework were to consist of already existing mechanisms, additional support at the national, regional and global levels would be necessary. The examples set out below are mostly from the global or regional levels, but the components for monitoring and reviewing and reporting that they outline would also be applicable at the national level.

1. Monitoring

Collection of data and information

46. Data and information collection is undertaken in many forms: voluntary, such as national reporting to the Commission on Sustainable Development; obligatory, such as national reports under the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change; and global and/or regional, such as the forest assessment collected by FAO and ECE.

47. Data and information can be obtained through, for example, national reports to a central body; questionnaires; country visits, such as "twinning", as conducted by the Organisation for Economic Cooperation and Development (OECD); hearings, such as by World Commission on Forest Sustainable Development; monitoring networks and/or remote sensing; and national focal points or independent correspondents, such as data collected by FAO for its forest resource assessments and UNIDO for its industrial statistics database.

Data organization

48. The value of data lies in the manner in which it is organized. In the forest sector, it could be organized by the Forest Principles or the IPF/IFF programme elements; by factors concerning economic, social, environmental/biophysical and institutional/policy issues; predetermined priority areas; political or ecological regions; forest type, or state of development.

2. Reviewing

Analysis and interpretation

49. The review, analysis and interpretation of the data is usually accomplished by the collecting or monitoring agency, and/or by another designated agency, and/or by independent experts, international organizations, non-governmental organizations, academia etc. In some cases, the review and analysis are made with a specific mandate stemming from an intergovernmental body, instrument or governing bodies. Transparency and accessibility of data and information is important, so that as many actors as possible can draw their own conclusions from the best available information.

3. Reporting

Presentation and dissemination

50. All United Nations organizations report periodically to their governing bodies, and some of these reports are relevant for monitoring forest-related issues. These bodies often review policies and measures undertaken by Governments, international organizations and major groups. For example, in FAO, the Committee on Forestry meets every two years; the governing body of UNEP meets every year, and may or may not consider forest-related issues, depending on its agenda; the ITTO governing body, the International Tropical Timber

Council, meets every year; and the Commission on Sustainable Development meets every year, and the practice has been to consider forest issues every three to five years.

4. Assessment for policy and decision-making

51. Assessments for policy and decision-making take place in various national and international processes. It can be accomplished through a parliamentary or intergovernmental body or the Conference of the Parties of a regional or international instrument. Assessments are also carried out through independent expert panels, such as the Intergovernmental Panel on Climate Change and/or by individual experts, national and international organizations, major groups and academia.

52. None of the above examples are necessarily mutually exclusive; they could all be a part of any integrated national, regional or global effort. A more detailed description of various existing mechanisms for reviewing and reporting, primarily in the United Nations system but also within such organizations as OECD and the European Union, is contained in the report of the Secretary-General on modalities for the exchange of national experiences at the regional level (E/CN.17/1998/9).

5. Streamlining of reporting

53. The Commission on Sustainable Development, in its early deliberations, considered the need for streamlining reporting requirements in the field of sustainable development. This concern was largely driven by two considerations: the increasing number of international legal agreements and intergovernmental decisions that were calling for national reporting on issues of relevance to sustainable development; and the cross-sectoral nature of sustainable development itself. Following a decision by the Commission, the Division for Sustainable Development prepared a four-year calendar that reflects the periodicity, scheduling and focus of these reporting requirements across the United Nations system, as well as the relevant conventions.

54. In a consultative meeting of the Inter-Agency Committee on Sustainable Development, the possibility of adopting a common format or even a single format for requesting information for Governments was discussed. However, it was felt that this would not be feasible for the following reasons: (a) mandated requests for information vary in their timing, periodicity and scope; (b) they are addressed to very different clientele at the national level (e.g., most intergovernmental bodies have designated specific national focal points as their interlocutors); and (c) the kind of information ranges widely (e.g., from statistical to assessment to experiential). It was agreed that information relevant to the issues contained in Agenda 21 should be requested in such a manner that Governments would not be asked to provide the same information to more than one United Nations organization. This presupposes that organizations review what is available "in-house" and ensure that they make "value added" requests; and that the information is made fully accessible, preferably via the

World Wide Web. This is, in fact, one of the major intended purposes of the United Nations system-wide sustainable development Web site.[7]

V. ASSESSMENT PARAMETERS, INFORMATION SOURCES AND THE INTERNET

A. Assessment and information

55. Using the framework suggested in sect. IV.B above, the following matrix is proposed using some of the descriptions of information sources above. This matrix could give an indication of how these information sources fit into the suggested general framework:

	Information sources
Economic development	FAO: Supply and demand surveys; pulp and paper capacity; trade and production; forest sector financing and investments; Forest Resources Assessment 2000
	ITTO: Pricing and trade data of tropical timbers
	UNIDO: Forest products manufacturing sector data
	World Bank: Valuation, IFC forest products industry investment data
	Various commercial information sources
Social development	FAO: FRA 2000; State of the World's Forests; capacity-building data
	UNIDO: Employment data
Environment/biophysical	FAO: Forest Resources Assessment 2000; agricultural land expansion; deforestation data
	WCMC/CIFOR/UNEP: Protected areas
	Convention on Biological Diversity: National reports
	UNEP: Biodiversity country studies, Global Biodiversity Assessment, Environment Data Report
	ECE: Polluted forest area data
	WRI: Carbon storage and sink data

Institutions and policy instruments	FAO:	National forest programme collection; research institutions; criteria and indicator processes; Forest Resources Assessment 2000; certification schemes
Overarching review	FAO:	State of the World's Forests

B. Dissemination and accessibility through the Internet

56. Modern information media, such as the World Wide Web, provides for many interesting opportunities in accessibility and dissemination of information. One collaborative task for Inter-Agency Task Force on Forests member organizations as well as other partners could be to make their forest-related data collections available on the Internet. To some degree, this is already available, albeit not in a collective fashion. A proposal for action related to this issue is presented in the report of the Secretary-General on programme element II.e (E/CN.17/IPF/1998/__).

57. A notable emerging initiative is the consortium formed among the International Union for Forest Research Organisations, CIFOR, WCMC, the World Forest Institute, FAO, the Oxford Forest Institute and the European Forest Institute (EFI). These organizations are discussing methods to increase the accessibility of good, timely and reliable data on forests and their utilization. A number of options are being explored, including better synchronized connections on the Internet, more access at each institution, new investments in capability in developing countries and regional information centres.

VI. BACKGROUND DISCUSSION AND REPORT OF THE SECRETARY-GENERAL FOR THE THIRD SESSION OF THE INTERGOVERNMENTAL FORUM ON FORESTS

58. For its background discussion at the second session, IFF may wish to consider the following:

(a) Not enough time has passed to discern concrete progress since the formulation of the IPF proposals for action. Several initiatives have, however, recently been launched in response to the IPF (see E/CN.17/IFF/1998/___);

(b) A process should be designed primarily to benefit and support country-level efforts and enable regional and/or global-level integration;

(c) The design of a framework that would enable monitoring, reviewing and reporting on the management, conservation and sustainable development of all types of forests in the long term, using available and compatible data sources;

(d) Establishing parameters associated with economic, social, environmental and institutional aspects, which would recognize different conditions around the world, as well as acknowledge that progress for different parameters will be uneven globally among countries and locally within countries at different points in time;

(e) The value of monitoring increases with time and integration. There are several organizations that have collected data and information for a considerable time; synergies could be achieved through their collaboration and integrated analysis.

59. The report of the Secretary-General on programme element I.b for the third session of the Forum will take into account the guidance received during the background discussion at its second session, in particular comments on the critical parameters to assess sustainable forest management and on already existing efforts towards the integration of fragmented information.

Notes

[1] See "Synergies in national implementation: the Rio agreements", UNDP/Sustainable Energy and Environment Division, 1997.

[2] For further information, contact: SADC Forestry Sector Technical Coordination Unit, at <www.fstcu.org>.

[3] For further information, contact: ASEAN Institute of Forest Management, at <www.jaring.my/aifm>.

[4] For further information, contact the secretariat of the Convention, at: <www.unccd.ch/parti.html>.

[5] For further information, contact: World Conservation Monitoring Centre, at <www.wcmc.org.uk/forest/data>.

[6] For further information, contact: Trade and Media Services Limited, at <www.forestnet.com/journal/year>.

[7] For further information, contact: Directory of Forest Products, Wood Science and Marketing Online, at <www.forestdirectory.com>.

[8] For further information, contact: G8 Action Programme on Forests, at <http://birmingham.g8summit.gov.uk>.

[9] Contact the site at <http://www.un.org/esa/agend21/natlinfo/>.

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Intergovernmental Forum on Forests
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Programme element II.a

Matters left pending on the need for financial resources

Note by the Secretariat

SUMMARY

Substantial financial resources are needed for the sustainable forest management of all types of forests, but new and additional resources are not seen as forthcoming as expected, despite commitments from both international and domestic public sources. The financing situation in developing countries with low forest cover is especially serious. Private capital flows to forest activities are increasing, mostly from international sources but also from within some of the developing countries. However, such capital flows, aimed at more traditional extractive operations, may not contribute significantly to sustainable forest management. The private sector also faces problems in gaining access to the start-up capital and in overcoming fear of risks and uncertainties involved in newer operations. Private-sector capital flows are unevenly targeted, aimed generally at countries with extensive forest cover. There is a need for policy reforms providing tax, financial and other incentives conducive to sustainable forest management while eliminating subsidies that are detrimental to it.

The present note discusses some conventional and innovative financial mechanisms used in other sectors and countries and their potential use in the forest sector of developing countries. It also discusses issues relating to an international forest fund, the Global Environment Facility and other instruments, and recent developments that have opened up new windows of opportunities for forest-sector financing.

Conclusions and proposals are summarized at the end of the note.

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I. INTRODUCTION

1. At its first session, the Intergovernmental Forum on Forests (IFF) decided that, at its forthcoming sessions, under category II.a, it should consider urgently the following options for action:

(a) Urge the establishment of an international fund to support activities for sustainable forest management;

(b) Pursue action to enhance funding in other ways, inter alia, by inviting the United Nations Development Programme and the Bretton Woods institutions, together with other relevant international organizations, to explore innovative ways both to use existing financial mechanisms more effectively and generate new and additional public and private financial resources at the domestic and international levels in order to support activities for the management, conservation and sustainable development of all types of forests.[1]

2. This note provides updated information on programme element II.a, designated for background discussion at the second session of the Forum. It builds on reports of the Ad Hoc Intergovernmental Panel on Forests on financial assistance and related concerns. In particular, it reviews the Panel's conclusions and proposals for action related to financing; assesses current status, new developments and issues of financing; and identifies further work needed and suggests some preliminary conclusions.

II. CONCLUSIONS OF THE AD HOC INTERGOVERNMENTAL PANEL ON FORESTS AND PROPOSALS FOR ACTION

3. The Ad Hoc Intergovernmental Panel on Forests, at its fourth session came to the following conclusions on financial assistance:[2]

(a) The issues of financial assistance are crosscutting, interlinked and essential;

(b) Current financial resources are insufficient;

(c) Financial needs should be met by domestic sources, but international financial sources are vital;

(d) Overseas Development Assistance (ODA) remains the main source of external public funding, particularly in those developing countries with low forest cover;

(e) The declining trend of ODA is a matter of concern;

(f) Forestry projects contributing to global environmental benefits should also get support through available international mechanisms such as the Global Environment Facility;

(g) Private capital flows to developing countries are an encouraging phenomenon, but their flows are uneven;

(h) There is need for enhanced international cooperation to address the debt problems of developing countries;

(i) Market-based instruments, such as taxes, levies, user fees and domestic public investments, are desirable;

(j) Properly valuing forest resources and creating markets that reward sustainable forest management would contribute to sustainable forest management;

(k) In-country coordination among donors is crucial.

4. The Panel proposed the following action for all countries, both developed and developing, and international organizations to strengthen financial assistance:

(a) Act collectively to increase financial resources;

(b) Increase ODA but also improve the absorptive capacity of developing countries to use such resources and enhance their domestic revenue generation capacity;

(c) Improve coordination among donors and recipient countries; base coordination and collaboration on country-driven national forest programmes; and avoid duplications and inefficient allocation of international public funds.[1]

5. The Panel urged the developing countries to prioritize forestry activities, internalize externalities associated with land use and forest policies, maximize rent capture, reinvest a greater share of forest revenues in sustainable forestry, and better coordinate; encourage private sector investments in forestry through various financial and tax incentives; increase revenues through market-based instruments; encourage voluntary codes of conduct by the private sector; and encourage mobilizing local community financial resources.

6. The Panel also recalled the Rio Declaration on Environment and Development,[4] stating the need for new and additional financial resources for developing countries, and urged the donor community to work with developing countries to identify the need and resource availability of those countries for sustainable forest management; increase concessional lending through international institutions; continue efforts to find efficient, equitable, development-oriented and durable solutions to debt problems of developing countries; and encourage their private sector to invest in sustainable forest management activities in developing countries through appropriate financial incentives and guarantees.

7. While the Panel invited international organizations such as the United Nations Development Programme (UNDP) and Bretton Wood institutions to explore innovative financial mechanisms, it found the world community not yet ready to establish an international fund devoted to sustainable forest management.

8. By revisiting the issue of an international fund, and urging UNDP, Bretton Woods and other institutions to continue engaging on innovative financing mechanisms, IFF noted a continued willingness on the part of the world community to consider ways to generate and allocate resources for sustainable forest management.

III. CURRENT STATUS OF FINANCIAL MECHANISMS

A. Trends

9. In 1997, the Fourth Expert Group Meeting on Financial Issues of Agenda 21 observed the following three general financing trends in regard to sustainable development activities:

(a) Policy reforms favourable to environmental conservation and economic development were increasing;

(b) Both official development assistance (ODA) and domestic resource mobilization had fallen far short of the commitments made at the United Nations Conference on Environment and Development;

(c) Private capital flows from developed to developing countries had increased significantly.[5]

10. Generally speaking, the forest sector has seen similar trends. Several countries, both developed and developing, are embarking upon policy reforms in the forest sector, focusing on the sustainable conservation, management and sustainable development of all types of forests.

B. Financial needs and sources of funds

1. Needs

11. The United Nations Conference on Environment and Development stipulated a need for $31.25 billion annually, for the period 1993-2000, to promote sustainable forest development. Taking into account the costs due to deforestation and other social and environmental effects, more recent estimates put funding requirements for sustainable forest management as high as $70 billion per year. However, actual funding available in the forest sector from all sources falls far short of even the more conservative estimate of the Conference.

2. Domestic public sources

12. The United Nations Conference on Environment and Development aimed to raise $25.58 billion (82 per cent) of the $31.25 billion annually from domestic sources (both public and private) and $5.67 billion (18 per cent) from foreign sources. Given the social and economic constraints of most developing countries, the intent to mobilize such a large share of domestic funds appears

very ambitious. Some countries such as Bangladesh and the United Republic of Tanzania, can finance less than 20 per cent of their current forestry expenses through domestic resources. For various reasons, many countries are unable to raise public funds for the forest sector. Problems are further compounded by low levels of general economic growth, a lower priority of the forest sector in national policy (thus, a smaller budget allocation), and the desire to treat forests as a source of quick revenue or even as an obstacle to economic development.

3. Domestic private sources

13. Despite the new wave of economic liberalization, many developing countries have limited private participation in forestry, particularly in the areas meaningful to sustainable forest management. Only a few developing countries, such as Brazil and Chile, have substantial private investment in forest products industries.

4. International public sources

14. ODA has been declining in the 1990s. The ODA in forestry for the year 1993 was only $1.54 billion, a little more than a quarter of what was estimated at the Conference. Ironically, ODA in general has declined in the years following the Conference. Moreover, the flow of ODA is not quite equitable among countries.

5. International private sources

15. The rapid economic globalization has seen increasing private international capital flows in developing countries. However, private investment does not flow to regions or countries uniformly. Private capital flows in the forest sector, although difficult to measure, are growing and are estimated to be around $8-9 billion a year from both domestic and foreign sources. Such private capital flows originate mainly in developed countries, but flows between developing countries are also growing. Transnational corporations are the main source of private foreign capital flow in forestry in developing countries.

16. These foreign capital flows in forestry in developing countries represent both a potential opportunity to attract private investment in forestry, particularly in light of declining external public funding, and a possible threat to long-term forestry, if business as usual continues. Much of current private capital flow is directed to conventional extractive operations and export trade, with the object of capturing as much rent as possible.

17. Yet, the involvement of transnational corporations could assist developing countries in capital formation and facilitate the transfer of technologies, human capital development and expansion of markets. Nevertheless, investment by transnational corporations and other private sources is driven by their profit motives and may not always coincide with the national interest of the recipient countries. Moreover, such capital flows generally favour countries with

substantial forest cover and other comparative advantages; developing countries with low forest cover are less attractive for private-sector investment.

18. Despite the increasing trend of private capital to flow to developing countries, the decline in official international capital is a matter of serious concern, because long-term development aid catalyzes and complements private investments. Cutbacks in international aid affect forestry and environment programmes, which, although essential elements in the economic and social development of a country, generally attract little private-sector funding due to their "public good" image. This has had a negative effect on a number of the least developed countries which have little capacity to attract domestic and foreign private savings and are traditionally dependent on official development aid.

C. Implementation of the Panel's proposals for action

19. Certain countries, with the help of international organizations, have moved forward with the Panel's proposals for action. Recently four - Costa Rica, Cameroon, Guyana and Viet Nam - started to implement the Panel's proposals for financial assistance with the help of the UNDP Global Programme on Forests (GPF). The participating countries have started working independently to design financial mechanisms most suitable to their own circumstances.

20. Guyana has recently adopted a new forest policy and is in the process of passing a body of laws to implement it. Viet Nam has adopted a national reforestation programme to mobilize its communities to finance substantial reforestation activities.

21. In another initiative, six countries - Finland, Honduras, Germany, Indonesia, Uganda and the United Kingdom - plan to work together to implement the Panel's proposals for action, including those on financing.

IV. RECENT DEVELOPMENTS

A. Climate change, carbon and forest linkages

22. The Kyoto Protocol to the United Nations Framework Convention on Climate Change[6] has aroused new interest in forests. The recognition of forests as a carbon sink and the agreement to establish an international-emission offset trading regime have opened a potential source of revenue in the forest sector. Countries that grow and maintain forest resources can thus be financed (compensated) by countries or industries that emit carbon dioxide, using a market-based instrument. Many technical and legal issues are yet to be explored and clarified. Being global in dimension, a carbon-offset programme calls for a global mechanism to resolve issues and regulate and monitor transactions.

23. Several countries and organizations are interested in examining the carbon-offset potential of forests and the financial opportunities it offers. Many initiatives are under consideration. The World Bank is studying prerequisites for creating carbon-offset markets the feasibility of using such markets to

promote forest conservation goals, and issues related to various climate change instruments, including carbon investment under its global carbon trading initiatives.

24. Costa Rica has been successfully using carbon-offset trading to generate funding for sustainable forest management. Guyana is exploring the market potential and marketing strategies of its forest-based carbon-offset market.

25. Some initiatives in this direction are being taken in the private sectors of industrialized countries. The Sampson Group in the United States of America is an example of an entity in the private sector implementing forestry projects for carbon offsets. Similarly, Alabama Power Company offers financial incentives to private landowners to plant trees to offset carbon emissions.

B. Asian currency and financial crisis

26. The currency and financial crisis in a number of Asian currencies in 1997 has had far-reaching consequences in national, regional and global economies. In the forest sector, the immediate impact was severe. In timber-producing countries the costs of financing soared, while the price of many timber products dropped. The instability of the banking sector made it difficult for timber exporters to obtain loans for working capital or commercial credits to import machinery and spare parts. The currency devaluation limited the Government's capacity to maintain subsidies deemed necessary to achieve certain social and economic goals.

27. The crisis has heightened awareness of the role of capital flows in economic development. It revealed the weaknesses and shortcomings of the Asian economies and exposed the risks of uncontrolled capital flows amid weak national financial institutions. It also underscored the importance of an orderly and properly sequenced liberalization of capital movements, the need for appropriate macroeconomic and exchange rate policies and the critical role of sound financial sectors and effective prudential and supervisory systems. It showed that without sound and transparent financial and banking systems, it is difficult for a country to sustain economic growth.

28. How the Asian crisis will affect financial mobilization in forestry, particularly for sustainable forest management, is yet to be seen. However, it may have made the financing of long-term sustainable forest management operations even more scarce and difficult. The international community needs to monitor events closely and consider developing emergency funds for crisis management.

V. AN INTERNATIONAL FOREST FUND AND OTHER INNOVATIVE FINANCING MECHANISMS

A. International Forest Fund

29. A number of international instruments with a bearing on forests exist - most notably, the Convention on Biological Diversity,[7] the Convention to Combat

Desertification,[8] the International Tropical Timber Agreement, and the Global Environment Facility - but they are designed to meet specialized needs and may address issues of sustainable forest management only partially. Sustainable forest management involves all aspects of forestry and land use, including conservation, management, utilization, processing industries, trade of timber and non-timber products and services, and the welfare of forest-dependent communities. Therefore, the comprehensive needs of an international forest fund cannot be met effectively by these specialized international funding mechanisms on their own.

30. In some developing countries, low forest cover and low GDP limit the capacity to invest in sustainable forest management. Many such countries, therefore, fail to attract foreign private-sector funds to their forestry sector. Although sustainable management of their forests could be vital for those economies, the specialized international instruments mentioned above may not be available to them. In such cases, an international forest fund would be a very important source of financing.

31. The Global Environment Facility (GEF) finances forestry activities that have direct global environmental benefit - for example, those concerning land degradation - primarily desertification and deforestation. It does not finance other aspects of forestry specific to sustainable forest management. A comprehensive evaluation of GEF and other international financial mechanisms would help policy makers determine whether a special international forest fund is desirable.

B. Innovative financing mechanisms for sustainable forestry

32. Financing in sustainable forestry is a complex process, due to the many special features of forestry. Sustainable forestry is an emerging sector that requires considerable clarification in terms of concepts and approaches. Forests represent both inventory and capital. A long rotation period causes investment uncertainties because of biological and market risks affecting final returns on investment. Such time requirements also highlight other characteristics of forestry: irreversibility and delayed cash flow. These uncertainties create problems in gaining access to credit and in setting terms. There are externalities associated with the growth of trees and other forestry operations that are not always reflected in conventional market transactions.

33. Increasing private-sector financing (both domestic and foreign) involves "selling" forestry opportunities as equally viable and competitive as other investment options. The lack of interest in forestry investment by private landowners is a problem common to both developing and developed countries. In general, strategies to generate interest in forestry investment include:

(a) Increasing private returns through financial subsidies and public technical assistance;

(b) Reducing investment risk and uncertainty;

(c) Eliminating or significantly reducing the cash flow problems associated with the long-term nature of forestry operations.

34. Some of the ways to address the low financial rates of return include fiscal subsidies and incentives, beneficiaries cost-sharing and increased productivity and efficiency of operation.

35. Reducing cash-flow problems in forestry investment would be a significant way to attract private investment in forestry. Special forestry concessional loans, with longer grace and payback periods, contractual arrangements with industries and other forest product users, and cost-sharing by public sources (both domestic and ODA) need consideration.

36. The "debt-for-nature swap" is perhaps the oldest innovative financing mechanism in forestry operations and has retired $159 million in face value of debt so far. However, the use of this mechanism has declined in recent years.

37. A forest fund is another device commonly used to finance specific activities for forest development. Sources for most such funds come from earmarked taxes and receipts from sales of forest products. Although the funds provide a ready source of financing for forestry, they face criticism from optimal investment criteria of public funds.

38. Use fees, levies and charges are other ways to increase revenue: beneficiaries are charged for the range of services provided by forests, particularly for watershed protection. A mechanism that required downstream beneficiaries to pay the upstream forest landowners for their watershed services has long helped to fund upland conservation in Japan. In Costa Rica and Colombia, portions of the revenue from hydroelectric companies provide funds for watershed management programmes.

39. Providing access to credit to small forestland owners and entrepreneurs can be improved through concessional micro-finance programmes using private and public sources. While access to concessional credit is essential, steps to reduce the risk of loan defaults to lending agencies are equally important. Public loan guarantees and other legal safety mechanisms to lenders and cooperative arrangements among borrowers, particularly small farmers, improve credit availability.

40. Many governments use tax incentives such as tax holidays, subsidies, exemptions, abatements, lower tax rates, outright cash grants and other incentives to encourage private investment in particular economic sectors, such as manufacturing. With tax incentives it is important to understand the role they play in investors' decision calculus and to avoid subsidizing investors unnecessarily with public money.

41. Innovative financing in sustainable forestry might adopt some of the cost-share programmes used in the United States of America. Under those programmes, federal and state governments offer cost-sharing payments to partially offset private landowners' expenses for tree plantation and forest management activities.

42. Incremental tax financing is a mechanism used to pay back public financial support to establish a private industrial facility through a special fund. This mechanism can also be used in leveraging private-sector investment in forest product industries. In addition, joint enterprises and modified conventional capital market instruments to finance sustainable forest management projects show good prospects.

43. ODA can be effectively used to leverage private funds. It can be used to facilitate public/private partnerships, strengthen institutional mechanisms and technology transfer, and provide seed capital.

44. Biodiversity patents or bio-prospecting fees involve creating an international legal basis for licensing biodiversity use and extracting a payment commensurate with its economic value.

45. The Tobin tax is a tax on foreign exchange transactions that can fund environmental cleanups and sustainable forestry. The tax has a potential to generate substantial revenue and discourage short-term speculative transactions across currencies and nations, which are potential contributors to currency crises (e.g., the Mexican peso crisis). The dominant players in foreign currency markets are private banks. While volatile currency markets are bad for a national economy, they are advantageous to that community.

VI. PRELIMINARY CONCLUSIONS AND OPTIONS FOR FURTHER ACTION

A. Conclusions

46. The conclusions reached by the Panel at its fourth session regarding the issues of financial resources for sustainable forest management in developing countries still hold true. The financial needs for sustainable forest management are substantial, and the capability of most developing countries to mobilize domestic resources is limited. Many policy reforms on improving public funding and encouraging private financial inflows into sustainable forest management are yet to be achieved, although some positive actions are seen in the case of some countries.

47. For many developing countries, particularly those with low levels of economic development and with scarce forest resources, ODA will continue to be the major source of financing for their forest-sector activities. With the help of ODA and domestic public funds, private capital could be directed to more sustainable forestry activities in forest stands, industry and trade.

48. Recent developments in the negotiations on climate change and the Asian currency crisis have once again revealed the interlinkages of forestry with broader economic and environmental matters.

49. UNDP, under its Global Programme on Forests, has launched a number of pilot cases, in collaboration with four countries, to design and test innovative financial mechanisms suitable to specific countries. Similarly, the World Bank is working on its Carbon Investment Fund mechanism. Many other countries and

international organizations are exploring new ways to generate resources through policy reforms.

50. Lack of reliable data on financial resources is a serious limitation to an understanding of the magnitude of the problem and the achievements made by different countries. In the past, the Food and Agriculture Organization of the United Nations (FAO) used to maintain data on many aspects of forestry for all countries. However, lack of resources and other support have limited its capacity to gather and synthesize such data. This matter should get serious consideration from the global community, in general, and from IFF, in particular.

B. Proposals for action

51. In order to support the financing of sustainable forest management activities, the Forum may wish to consider the following proposals for action:

(a) Urge countries to increase their ODA contributions targeted at sustainable forest management in developing countries;

(b) Urge countries and relevant organizations in the forestry sectors, such as the International Tropical Timber Organization, UNDP, FAO, the World Bank and regional banks seriously to consider and explore the possibilities and needed frameworks for carbon offset trading and other emerging potential revenue sources of forests;

(c) Request relevant organizations in the forestry sector to work collaboratively with country forest and finance agencies to introduce and continue using market-based instruments such as user fees and increased rent capture, to devise incentives for investing in sustainable forest management practices and to eliminate subsidies and to impose taxes on unsustainable forestry and land-use practices that affect forest sustainability;

(d) Urge developing countries to formulate policies that facilitate private investment in sustainable forest management;

(e) Urge developed countries and multilateral organizations to support the capacity-building efforts of developing countries to improve their planning and implementation of sustainable forestry activities and their capacity to absorb ODA;

(f) Urge developed countries and multilateral organizations to provide loan and investment guarantees, matching funds and other supports to promote private-sector investment in sustainable forestry in developing countries;

(g) Urge developed countries and multilateral organizations to foster partnerships in forestry financing between the private sector in the developed countries and the private and public sectors in the developing countries.

52. In view of the inadequacy of information on investment in forestry, the Forum may wish to urge its member countries to support activities for systematic

data collection and analysis, in order to make reliable, updated information available and to foster information sharing.

53. The Global Environment Facility (GEF) is one international fund that could provide information and lessons on the proposal to establish a new international forest fund. The Forum may wish to urge organizations and countries directly involved with GEF to review the GEF mechanism and learn from it.

54. The preparation of the Secretary-General's report on IFF programme element II.a will benefit from additional guidance provided by the Forum.

Notes

[1] See E/CN.17/IFF/1997/4, para. 7.

[2] See E/CN.17/1997/12, paras. 59-66.

[3] Ibid., paras. 67-71.

[4] Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigenda), resolution 1, annex I.

[5] See E/CN.17/1997/18, Chairman's summary.

[6] See FCCC/CP/1997/7/Add.1.

[7] See United Nations Environment Programme, Convention on Biological Diversity (Environmental Law and Institution Programme Activity Centre), June 1992.

[8] A/AC.241/27.

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Programme element II.d(iii)

Matters left pending and other issues arising from the programme elements of the IPF process

Valuation of forest goods and services; economic instruments, tax policies and land tenure; future supply of and demand for wood products and non-wood forest products; and rehabilitation of forest cover

Note by the Secretariat

Summary

This note, on some major issues relating to the valuation of forest goods and services; economic instruments, tax policies and land tenure; future supply of and demand for wood products and non-wood forest products; and rehabilitation of forest cover, is prepared in order to facilitate the background in support of the discussion on these topics by the Forum at its second session. It raises a few questions which the Forum may wish to consider and seeks the Forum's guidance in preparation of the report that will be the basis for substantive discussion at the third session.

This note is based on material prepared by the Food and Agriculture Organization of the United Nations and the World Bank as lead agencies for these topics within the informal, high-level Inter-Agency Task Force on Forests.

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I. INTRODUCTION

1. This note is prepared as a supporting document to a background discussion on parts of category II.d of the programme of work set out in the report of the Intergovernmental Forum on Forests (IFF) on its first session (E/CN.17/IFF/1997/4) - namely, the valuation of forest goods and services; economic instruments, tax policies and land tenure; future supply and demand of wood products and non-wood forest products; and rehabilitation of forest cover. At that session, IFF emphasized the need to build on the positive results achieved by the Commission on Sustainable Development Ad Hoc Open-ended Intergovernmental Panel on Forests (IPF) and to consider matters left pending and other issues arising from the programme elements of the Panel process. This note, therefore, recalls in the final report of the Panel (E/CN.17/1997/12) the conclusions and proposals for action relevant to the above issues. It reviews major aspects of those issues and summarizes some of the main conclusions.

2. This note is based on documentation prepared by the lead agencies for these topics in the informal, high-level Inter-Agency Task Force on Forests. For the first two issues, the lead agency is the World Bank, and for the last two, it is the Food and Agriculture Organization of the United Nations (FAO).

II. MANDATE

3. Category II of the IFF programme of work mandates the consideration of "matters left pending and other issues arising from the programme elements of the IPF process". The section of the mandate stipulating the work under programme element II.d, concerning the topics of this note states:

> Consider ... valuation of forest goods and services; assessment, monitoring and rehabilitation of forest cover in environmentally critical areas; ... the use and application of the range of economic instruments, including tax policies and land tenure arrangements as a means of promoting sustainable development; and future supply and demand of wood and non-wood forest products and services.

4. These issues will receive substantive discussion at the third session of IFF.

III. MATTERS LEFT PENDING AND OTHER ISSUES

5. Even if the topics under consideration in this note are interrelated, they will be treated separately. Some, however, should be read in combination - since, for example, valuation of forest goods and services is only meaningful if directly linked to economic instruments. Because of constraints in the length of official documentation, the current note, out of necessity, treats each of the four topics in a summary fashion.

A. Valuation of forest goods and services

1. IPF proposals for action

6. The Panel's discussions on the valuation of forest goods and services resulted in several proposals for action. Inter alia, the Panel encouraged countries, in collaboration with international organizations, to make use of available methodologies to provide improved estimates of the value of all forest goods and services. It requested international organizations and relevant institutions to prepare comprehensive documents on the available forest valuation methods and data sets required for the evaluation of forest goods and services, in particular those that were not traded in the marketplace. The Panel also invited countries and relevant international organizations and institutions to promote research to further develop forest valuation methodologies, in particular those related to deforestation and forest degradation, erosion, and criteria and indicators, taking into account the particular circumstances of each country.

2. Major issues in valuation of forest goods and services

7. The methods for valuation of wood forest products destined for timber and fibre use are well established and were discussed in detail during the Panel's discussions. Therefore this note will focus on the creation of markets for non-timber forest values. Forests provide a wide variety of local, national, and global services, including carbon sequestration, biodiversity conservation, recreation, and watershed protection. These benefits, however, do not usually accrue to the forest owner or manager, who therefore lacks both incentives and funds to maintain them. In principle, if beneficiaries of these environmental services paid for them, forest conversion would be reduced and standing forests would be better maintained.

8. In practice, what is the scope for this kind of financing mechanism? Astronomical calculations of forest values, such as one of $4.7 trillion, emphasize our concern for forests but provide little guidance. Setting aside arguments about the derivation of the numbers, the point is that conservation depends on marginal, not total, values. What needs to be considered are mechanisms to influence the forest conversion or exploitation decisions of the landholder at the forest frontier. Five non-timber forest services are often cited as potentially generating incentives for conservation:

(a) Carbon sequestration

9. Carbon sequestration appears to be the largest and most generally applicable non-timber forest service that can potentially be developed in the near-to-medium term. A market for this service may be created under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, which sets limits on developed countries' greenhouse gas emissions but may permit them to meet those limits in part by acquiring offsetting emission reductions from other countries. The eligibility of forest-based emission reductions for this purpose is still under discussion. If such trading is allowed, rough simulations suggest that in 2010, 1 billion tons of carbon allowances, or

emission reductions, would be traded, at a price above $30/ton. This estimate does not allow for emission reductions from forestry, whose inclusion would boost the quantity traded and reduce the price. Depending on the eligibility rules for projects and on the cost of producing emission reductions - both now subject to great uncertainty - the market for forestry-based emission reductions might encompass hundreds of millions of tons of carbon and billions of dollars per year.

10. For a significant market in forest-based sequestration services to emerge, these technical issues must be satisfactorily resolved, the parties to the Framework Convention must agree to allow forest-based emission reductions from developing countries, and the Kyoto Protocol must come into force.

(b) Hydrological services

11. Conventional wisdom accords forests a significant economic role in preventing the silting of hydropower facilities, protecting the quality of drinking water, maintaining the flow of water in the dry season, preventing flooding, and generating local rainfall. In reality, the magnitude and even direction of these impacts is variable and highly sensitive to local economic and bio-geophysical conditions. For instance, hydrological theory and evidence suggest that deforestation often increases rather than decreases dry season flows. Sediment impacts depend on the proximity of deforestation to streams, the gradient of watersheds, and the presence of at-risk facilities such as power stations in the watersheds. The local climatic impacts of deforestation are very poorly understood, but theory suggests that the impacts depend greatly on the scale of deforestation, and that moderate amounts of deforestation could increase local rainfall.

12. Maintenance of forest cover in urban watersheds may be a cost-effective means of maintaining the quality of water supplies for urban consumers and for freshwater and marine fisheries. Similarly, maintenance or regeneration of riparian forests can disproportionately reduce sedimentation, intercept agrochemical runoff from fields, and play a role in maintaining habitat connectivity for biodiversity. There are several markets for hydrological services based on this rationale, including payments by New York City for watershed protection, the Quito Watersheds Conservation Fund in Ecuador, Costa Rica's environmental services payment system, and the Conservation Buffer Initiative in the United States.

13. In general, however, the hard hydrological data and analyses that could justify, for instance, spending public funds on watershed protection rather than water filtration are lacking. In the absence of these analyses, it is difficult to assess the potential scale of markets for hydrological services.

14. In principle, downstream users could pay loggers for the service of not creating sedimentation. Alternatively, one could apply the "polluter pays principle", as is standard for other types of water pollution, imposing sediment discharge fees on loggers. In practice, most jurisdictions impose regulations on logging practices so as to minimize sedimentation.

(c) Biodiversity

15. Bioprospecting is an emerging source of forest-based revenue. While estimates of the potential value of forest-based pharmaceuticals range into the hundreds of billions of dollars, existing transactions are modest. A recent review attributes this to the growing success of synthetic chemistry in finding promising compounds. Over time, the industry may shift from a focus on identifying individual antibiotics to identifying entire genes or sets of interacting chemicals. Such a shift would increase the comparative advantage of bioprospecting relative to laboratory synthesis.

16. Currently, and probably for the foreseeable future, bioprospecting revenues will not be strongly linked to the sheer area licensed for exploration but rather to cleverness in selecting samples for screening. One rough theoretical calculation puts the average bioprospecting value, in the area of the highest and most distinctive biodiversity, at about $2/hectare with more typical values of less than $0.10 even for areas of great biodiversity significance. However, where ancillary information can be used to pinpoint promising areas, per-hectare values may be considerably higher.

17. If biodiversity conservation is a public good enjoyed by the world, it is appropriate to seek direct international sources of financing for conservation. In the long run, it is possible that market mechanisms similar to those under discussion for carbon will be developed to compensate forest owners and managers directly for biodiversity conservation services. This is most likely to happen in areas of notable biodiversity richness and uniqueness.

(d) Non-timber forest products

18. Natural forests produce an immense range of non-timber products. These are often of critical importance to forest dwellers who rely on non-timber products to provide them with a source of income. In some cases, these products have been able to tap into a broader national or international market. The most prominent example is rattan.

19. Early calculations showing extremely high theoretical per-hectare values of these products have given way to a sober realization of the considerable barriers to marketing new products. They include the high labour costs of extracting products from species with low densities per hectare, the danger of overexploitation, and keen competition from substitute products and from domesticated production. Realistic net rental values associated with the extraction of non-timber forest products are probably $10-15 per hectare for favourable areas. Prospects for generating conservation incentives via non-timber forest products are site-specific and limited.

(e) Eco-tourism

20. Information on the scale and prospects of forest-based eco-tourism is scant. One estimate places the global economic impact of all nature-related tourism at between $83 and $166 billion. If this were accurate, achievement of even a small share for forest-related tourism would represent a substantial market for forest services. A realistic measure of current prospects is

provided by the Monteverde Cloud Forest Biological Reserve in Costa Rica. One of the most famous and successful forest tourism destinations in the developing world, it collects annual entrance fees of about $50/ha. In the very long run, the combination of a growing world population, higher world incomes, decreased transport costs, and diminishing forest areas will boost the recreational value of areas now considered remote.

(f) Implications for research and development

21. To facilitate the emergence of a market for forest-based carbon emission reductions, work is needed on developing measurement and verification protocols and on projecting the economic and environmental effects of such a market. To facilitate the emergence of markets for watershed services, far more effort must be invested in hydrological measurements and economic analyses of potential interventions.

B. Economic instruments, tax policies and land tenure

1. IPF proposals for action

22. Discussion by the Panel did not specifically address the issue of economic instruments, tax policies and land tenure. There were, however, many proposals for action that called for creating enabling policy and economic environments to promote sustainable forest management. This section aims at supporting the background discussion on how that can be achieved.

2. Major issues in economic instruments, tax policies and land tenure

23. Regulations on land use and forestry have two broad goals:

(a) To preserve environmental and other non-timber forest values;

(b) To raise revenue for the forest owner - often, but not always, the Government itself.

24. A positive economic approach to forest policy examines the economic, fiscal, and environmental impacts of alternative tax and regulatory regimes. A normative approach seeks economic instruments that are cost-effective in achieving environmental goals and efficient in appropriating rents for forest owners without introducing economic distortions. Both approaches are in their infancy. This note describes the principal issues; firm empirical answers are mostly lacking.

25. It is convenient, though somewhat artificial, to break the land allocation problem into two decisions:

(a) How much forest land to convert;

(b) How to manage those areas designated to remain under forest cover.

(a) The land-conversion decision

26. To achieve environmental, conservation, and economic goals, regulatory authorities seek to divide natural forests among three classes: full protection; multiple use, including both conservation and production of timber and non-timber products; and complete conversion to agriculture or plantation forest. Two overarching issues are:

(a) On what basis should land be allocated among the classes?

(b) What instruments are available to bring about this allocation?

(i) The basis for allocating land

27. From a normative standpoint, forestland ought to be allocated so as to achieve non-monetizable environmental goals (such as biodiversity preservation) in a cost-effective manner. A growing literature in conservation biology describes "reserve site selection" methodologies which attempt to minimize the cost (in land area, cost of land acquisition, or other economic terms) of satisfying a precisely stated environmental goal (such as representation of species or habitat types), subject to additional social, economic, and environmental constraints. Stakeholders can use them as the basis of negotiations about land-use regulations. The methodologies will become increasingly important as land-use conflicts grow - when, for instance, urban and agricultural areas expand into already fragmented forests. Important areas for research and development on these methodologies include refinement of the ecological objective function and of the cost function, inclusion of land-use categories intermediate between conversion and protection, and linkages to policy instruments affecting land-use change (see below).

28. Much less well explored is the issue of the desirability and applicability of the multiple-use option. It is generally assumed that allocation of land to production forests represents a trade-off between the biodiversity advantages of full protection and the economic advantages of complete forest clearance. Recent work has questioned the assumed trade-off, raising the possibility that splitting multiple-use areas between full protection and full exploitation/conversion may in some circumstances be superior to multiple use on both economic and environmental grounds. This is an important area for investigation and applies as well to land uses such as agro-forestry and plantation forestry.

(ii) Instruments for land-use allocation

29. To date, zoning has been the predominant instrument for enforcing land-use plans. Zoning can be effective when enforced, but establishing and enforcing it can be problematic when there are strong economic and political pressures for forest conversion or exploitation.

30. Road-network planning, in the context of regional development planning, is an extremely powerful tool for affecting the spatial configuration of forest conversion and exploitation. Intensification of the road network in favourable agroclimatic areas and a prohibition of road expansion in sensitive areas would

be efficient methods of achieving conservation goals, though they might raise important issues of geographical equity.

31. A relatively unexplored but potentially promising complement to zoning is the use of economic instruments. Just as pollution charges and permits have reduced the cost of achieving pollution reductions relative to "command and control" approaches, so too might economic instruments facilitate the reservation of forest areas with the lowest opportunity cost. A general approach would take bids from forest owners for acceptance of easements restricting land-use change and the degree of forest exploitation. The easements might be financed from general tax revenue or from the sale of carbon offsets, as in Costa Rica. Alternatively, a system of tradable development rights might be instituted. Landholders in environmentally sensitive areas would be forbidden to develop their property but would be allowed to sell their foregone rights to landowners in less sensitive areas. The latter could use those rights to offset requirements for local forest maintenance. Much work needs to be done in this emerging policy area to derive simple, enforceable and effective economic instruments for efficient land-use allocation.

(b) Regulation and taxation of logging

32. Landowners (often the Government) regulate logging by:

(a) Establishing mandatory management criteria; for instance, there may be rules about which species and what overall proportion of trees can be cut; minimum diameter limits on cutting; prescribed rotation lengths; maximum slopes; and so forth;

(b) Setting up a fee system or taxation structure that governs log production or concession allocation;

(c) Prescribing the length and renewability of concessions or use rights;

(d) Setting up a monitoring and enforcement system.

33. These regulations, together with market conditions and available technologies, determine the intensity of logging and management activities and their impact on biodiversity, carbon storage, logger profits, monitoring and enforcement costs, and quasi-rents accruing to the landholder. Understanding the resulting trade-offs and complementarities is essential to understanding cost-effective means of preserving biodiversity and reducing carbon emissions and to understanding the distributional effect of different taxation systems. There is much speculation but little empirical information on these relationships. Some open questions include:

(a) To what extent does increasing the strictness of logging regulations or management criteria lead to diminishing environmental benefits, increasing opportunity costs, increasing monitoring and enforcement costs, and decreased compliance?

(b) Under what conditions does a strategy of allowing a single harvest of a forested area, followed by protection, dominate a sustained-yield strategy on

criteria of net present value of profits, carbon storage, and biodiversity preservation?

(c) Which reduced-impact logging techniques are privately profitable? If they are privately profitable, what prevents their spontaneous diffusion?

(d) Does low-rent capture result in efficiency losses or merely have distributional effects?

(e) Is better forest management promoted by granting longer concession periods?

(f) Which is more effective for enforcing regulations, a system of performance bonds or a system of renewable short-term concessions?

(g) What are the costs and benefits of alternative monitoring and enforcement approaches? Is it possible to emulate modern systems of industrial pollution monitoring and enforcement, which depend on audited self-reporting?

(c) Areas for research and development

34. Policy-oriented research and pilot studies are needed in the following areas:

(a) The effectiveness of land-use zoning;

(b) Development and application of economic instruments for allocating land to conservation;

(c) The economic and environmental implications of alternative forest tax and regulatory schemes;

(d) The costs and benefits of innovative methods for monitoring and enforcement of regulations, including performance bonds, concession renewability conditions and public disclosure of environmental impacts.

C. Future supply of and demand for wood products and non-wood forest products

1. IPF conclusions and proposals for action

35. A primary analysis of future supply and demand prospects was provided to the Panel in a study sponsored by the Government of Norway, entitled "Long-term trends and prospects in supply and demand for wood products, and possible implications for sustainable forest management". A substantive discussion of the specific issues and implications arising from the study was beyond the scope of the Panel's deliberations, although it recognized the key importance of fundamental economic principles in determining the future of forests. As a consequence, it urged countries:

"To assess long-term trends in their supply and demand for wood, and to consider actions to promote the sustainability of their wood supply and their means for meeting demand, with a special emphasis on investment in sustainable forest management and the strengthening of institutions for forest resource and forest plantations management."

36. The Panel's conclusions and proposals for action acknowledge the importance of a future supply of and demand for wood and non-wood products in determining the future of forests and call for action in several areas.

2. Major issues in future supply of and demand for wood and non-wood forest products

37. A considerable body of literature addresses issues of supply and demand in forest products, mainly for industrial use. There is need to continue to study the supply of and demand for fuelwood and non-wood forest products as well as environmental services and benefits. In late 1998, a fuller analysis of the status of resource availability and its prospects will be available upon completion of the FAO global fibre supply study.

38. While there is broad consensus among recent studies that, in the immediate future, wood supplies at the global level will be adequate to maintain a level of availability that approximates the current situation for forest products at relatively stable prices, none of the recent studies predicts a surfeit of wood. There remains sufficient variability and uncertainty in forecasts to suggest that in some countries and regions the situation is less than comfortable.

39. The base statistics on which supply assessments are founded are, in general, very poor. National forest inventories are often non-existent, old, incomplete or poorly designed for current analytical needs. In addition, utilization data, especially for non-wood products and services, are in an even worse state than those for wood for industrial purposes. To compound the challenges, the best information available is often non-standardized and in a poor statistical reporting structure both at the country level and for international reporting.

40. There are a number of central questions that have an impact on supply of and demand for forest products and services. This note raises, for the perusal of the Forum, the questions of how sustainable forest management, increased forest areas under protection, afforestation and plantations might affect future supply and demand.

41. The following analysis attempts to give further insight into the broader supply and demand issues which will have a significant impact on the ability of forest policy makers to prescribe appropriate forest policies and policy frameworks.

(a) Demand

42. The key drivers of demand for forest products are population growth and increasing wealth (reflected to some extent in GDP). A range of other factors

also significantly affect demand, including the price competitiveness of forest products relative to non-wood products, the technical competitiveness of wood products against substitute products, and consumer preferences for wood vis-à-vis non-wood alternatives.

43. The role of population growth in increasing demand for forest products and other products is recognized and understood. Increasing income is a principal factor underlying projections of increasing demand for forest products. Mainly three areas - North America, Asia and Europe - geographically dominate the world's industrial forest products economy. A correlation between increasing incomes and preferences for environmentally friendly products and outcomes suggests a future of increasingly complex interplay in the demands placed on forests and the relative acceptability to consumers of forest products and competing non-forest substitutes.

(b) Supply

44. Supplies of forest goods and services have four main sources: natural forests, planted forests, trees outside forests, and alternative fibres. These sources provide the resource needs for industrial wood, fuelwood and non-wood forest products and also for an extremely complex array of forest services.

45. Since forests are very dynamic ecological and economic systems, developing appropriate frameworks for forest policy formulation is a significant challenge. In addition, there are also new sources of supply which provide opportunities for meeting increasing demands for forest products.

(i) Wood fuels

46. A large proportion of wood fuels come from trees outside forests, and hence supply conflicts with industrial usage are generally infrequent; in fact, inefficient resource use may occur as a result of inaccessibility of industrial wood residues to wood-fuel users.

(ii) Non-wood forest products and services

47. Forests provide a vast range of non-extractive environmental services and benefits alongside wood and non-wood forest products. The estimated global value of forest rood is about $20-$25 billion. The key issues associated with supply of non-wood forest products are related to their small scale and lack of development in an industrial sense.

48. For forest services, the key issues relate to developing appropriate pricing methodologies and mechanisms which will ensure that the full economic value of forests is recognized.

(iii) Land-use change: deforestation and forest degradation

49. Deforestation remains a serious policy issue for some forest regions. A meaningful analysis of changes in the world's forests requires a differentiation between increases or decreases of forest area and the changes in forest condition. The most frequently reported parameter is change in forest cover.

Forest quality, although equally important for wood supply, is less intensively observed and monitored. Given that the change in forest area is negative in five out of eight regions in the world, deforestation can be expected to remain a prominent issue in the policy debate over forests.

(iv) Sustainable forest management

50. In forests available for wood supply, the shift towards sustainable forest management means combining wood production with other management objectives. Conceptualization of sustainable forest management has outpaced the development of specific on-the-ground practices that will achieve sustainability. From a production perspective, this shift could have implications for timber supply and raises the question whether unacceptable economic hardship will be created during the adjustment phase. A potential brake on global flows of forest products would occur if the forest areas of key producer countries become inaccessible (for policy reasons) as a source of industrial forest products. Similar supply implications can also be seen if substantial forest areas are set aside as protected areas.

(v) Planted forests, afforestation rate and development gains

51. Since the growth on plantations is much higher than in natural forests, policy developments that promote the use of plantations will have a significant impact on fibre supplies, as well as easing the pressures on natural forests. In general, it can be concluded that good tree improvement programmes will result in considerable gains in wood yields from tropical and non-tropical forest plantations.

(vi) Alternative fibres

52. Currently wood is the major raw material in the global pulp and paper industry. However, waste paper is making significant inroads, and all regions except North America consume more waste paper than they recover. Significant levels of non-wood fibres are used in a handful of countries, using sources that are usually more intensely grown than wood. Non-wood paper is often produced in smaller pulp and paper mills which are frequently unable to afford pollution-abatement technologies. Policies need to recognize and respond to the fact that, in attempting to preserve forests for environmental reasons, the environmental problem might shift downstream, with maybe even more damage to the environment. A host of other issues also influences supply of and demand for wood and non-wood products and forest services. Supplementary wood and fibre sources such as trees outside forests (especially for fuelwood) and agricultural tree-crops are also important in reducing pressure on forests. Similarly, considerable analysis has been carried out on the roles and impacts of factors such as the economic accessibility of wood supplies, the impact of integrated forest management, material efficiency, the social dimensions of forest product supplies, and the roles of institutions and institutional arrangements.

D. Rehabilitation of forest cover

1. IPF proposals for action

53. The report of the Panel outlined priority items for consideration relevant to assessing, monitoring and rehabilitating forest cover in environmentally critical areas, including

(a) The need to determine the underlying causes of deforestation;

(b) Giving further consideration to the currently neglected traditional forest-related knowledge;

(c) The need for regular monitoring of forest cover and its rehabilitation, including assessments of transboundary studies;

(d) Better assessment of forest area under conservation or any other protected status;

(e) Clear setting of research priorities.

The report made a number of other important observations, notably that:

(a) Effective assessment, monitoring and evaluation are a major policy issue;

(b) Poverty and demographic pressures are the root causes of deforestation (although it also follows that deforestation delivers the global benefit of increased food security through expanding agriculture);

(c) Environmental impact assessments should be used as a basis for action against uncontrolled conversion of forest land for other purposes.

2. Major issues in rehabilitation of forest cover

54. A review of the assessment, monitoring and rehabilitation of forest cover in environmentally critical areas must start with the understanding that forests and trees are renewable resources. It should consider the nature and causes of deforestation and degradation and under what conditions tree cover could be restored. The key questions relate to:

(a) Shared understanding of concepts, including forest cover, degradation, environmentally critical areas, areas under potential or actual threat;

(b) Identification of the location of the critical areas and opportunities for carrying out rehabilitation work;

(c) The importance of deforested and degraded areas;

(d) The means available to rehabilitate and monitor progress within the context of adequate criteria for assessment.

55. Critical areas are understood to include dry zones, mountain areas, coastal areas, freshwater swamps and land degraded through unsustainable agriculture. Although trees and forests are highly adaptable renewable resources which, given protection from damage, will regrow on most types of land, in critical areas the site conditions and external factors acting on the site make the growth, regrowth or development of forest cover difficult.

(a) Dry zones: desertification and silvo-pastoralism

56. The important international instruments dealing with dry zones are the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa, and chapter 12 of Agenda 21. The Convention to Combat Desertification notes that information on rates and causes of desertification are still needed, especially for Africa, and proposes a target of the year 2001 for every country to have a policy for dry lands. It emphasizes capacity-building, partnerships between civil society and non-governmental organizations, and the empowerment of people along with an assessment of trees, woodlands and forests and of the processes leading to degradation - the forerunner to desertification. It also emphasizes the need for peoples' participation in decision-making and management, decentralization and the value of a mix of local, national and international partnerships at all levels.

57. An expert meeting held in 1996 in Lisbon, Portugal, under the auspices of the Governments of Cape Verde, Portugal and Senegal, listed many constraints on development in dry zones, noting particularly the use of trees for the support of sustainable livelihoods and the need for a holistic approach. The low potential biomass yield in dry zones means that tree products should ideally be of high value and low biomass content, such as honey, silkworms or medicinal plants. Low-value crops such as fuelwood usually give low benefit/cost ratios which, although not likely to encourage outside investment, provide socio-ecological benefits such as shade, forage, food products.

58. The recommendations of the Lisbon experts meeting and those of the Second Expert Consultation on the Role of Forestry in Combating Desertification both point to some strong critical policy goals, including:

(a) The existence of national forest policies for dry lands, drawn up with peoples' involvement and incorporating sound ecological management principles;

(b) Clearer tenure arrangements to promote higher security in resource use, management and conservation;

(c) Prioritization of preventive measures for action;

(d) The need for guidelines to help decision-makers in choosing species and techniques for plantations and doing so on a truly participatory basis;

(e) Improvement of training and education at all levels, together with revision of teaching curricula and a new approach to extension;

(f) Basing action on environmental safety, social acceptability and economic relevance.

(b) Mountain forests: catchments and biodiversity

59. The relevant parts of the international instruments are chapter 13 of Agenda 21[4] (Managing fragile ecosystems: sustainable mountain development), chapter 15 (Conservation of biological diversity) and chapters 10-12 as well as the "Forest Principles"[3] and the Convention on Biological Diversity.[5] Mountains are particularly fragile due to their high energy environments; they are frequently regions of active geomorphological change and are characterized (compared with hills) by distinct altitudinal climatic belts. Cloud forests are especially vulnerable, because once the trees have been removed, they may receive virtually no rainfall. It is noteworthy that some of the world's oldest organisms and some of its most threatened animal species (e.g., the gorilla) are found in cloud forests.

60. FAO estimates that upland forests are being lost at an annual rate of 1.1 per cent, greater than elsewhere in the tropics. A major feature of many mountain forests is slash-and-burn agriculture, often due to the economic and political marginalization of the cultivators. The promotion of agroforestry on individually held land is often regarded as more effective than setting up communal forestry schemes in those areas. In natural upland forests, women are often the de facto managers, receiving little recognition and no management authority.

61. The quantity and variety of resources coming from mountain forests are often unsustainable, and their value often accrues to downstream beneficiaries rather than to the mountain communities. Since the most important forest product of many mountains is water, many Governments have labelled them "protection" forests. The downstream beneficiaries who receive the water, such as owners of irrigated farmlands, make little or no reinvestment either in the resources themselves or in the mountain communities.

62. The rehabilitation of mountain forests by tree planting poses a dilemma in the choice of species. Other options for the rehabilitation of mountain and mountain forest ecosystems are more socio-ecological objectives, broader based management systems, better harvesting practices and an enabling political environment, and shift away from a concern with biomass production. The essential prerequisite and facilitating framework will include the recognition of services rendered by mountain ecosystems and their dwellers to lowland communities and systems and the necessity for compensation in a comprehensive consideration of local and national economies.

(c) Coastal zones, especially mangrove forests

63. Mangroves represent the single most important coastal forest formation in the world. Deforestation in mangrove forests can cause coastal erosion and interrupt important ecological succession in the stabilization of materials deposited at the mouths of rivers. Mangroves are important sources of wood products and provide habitats for rare species of avifauna. Some acid sulphate soils are especially susceptible to degradation when cleared for agriculture and

should be avoided for this purpose. In view of the aquatic environment, aerial sprays of agricultural chemicals should be avoided as should mining operations, which present special hazards. What is most needed if mangroves are to be saved are strong policy options that address the need for integrated approaches to the use and conservation of mangroves; take into account the multiple services they provide; raise awareness of and evaluate continuously the environmental impact of development initiatives on mangroves; and envisage social promotion of societies dependent on mangroves.

(d) Degraded sites arising from unsustainable agriculture

64. The planting of suitable woody species may often restore soils that have been exhausted or made otherwise unproductive from exploitative agriculture. Recent work on planted fallows shows what can be achieved at some tropical sites with certain tree species producing highly priced products. The need to address the restoration of alkaline and saline soils, which are no longer productive as a result of land clearance and improper irrigation techniques, is an important special concern. Large areas of such soil exist, although they are not regarded as key for the restoration of forest cover. The need for sustainable agriculture is of great importance to the forest sector in this respect.

(e) Objectives and prerequisites for successful restoration and rehabilitation of forest cover

65. Degradation and deforestation entail loss of ecosystem productivity, elimination of natural buffer systems, reduced biological diversity, and impairment of all the physical and biological services and functions provided by forest and tree resources. Rehabilitation will aim at restoring the balance and the associated natural processes maintaining forest ecosystems. The process of rehabilitation can only effectively take place with clearly defined objectives, against which progress can be monitored. Some objectives are to:

(a) Establish nursery crops to restore, eventually, a previous ecosystem;

(b) Establish ground cover to protect soils from erosion;

(c) Protect watersheds and catchments, feeding rivers and hydro-electric dams;

(d) Manage a single species with a view to promote understorey diversity;

(e) Create a wood resource to take the pressure off natural formations.

66. One of the most important prerequisites for successful rehabilitation is clear definition of the control over the land in question. In most cases there will be several parties or stakeholders interested in the future use of even heavily degraded or deforested land. It is useful to identify the secondary stakeholders who may have considerable influence on the land/forest reserve as well as the primary stakeholders who have a direct stake in it. A recent preliminary study carried out in six African countries has tested a concept of four "Rs" for stakeholder analysis and conflict resolution. They are Rights, Responsibilities, Revenues/returns and Relationships.

(f) Technical factors

67. Technical packages exist for most rehabilitation situations, depending on the objectives of the process. They fall naturally into two major groups: the use and encouragement of natural regeneration; and the introduction of germplasm through planting. There are many options combining the two approaches. In almost all situations, rigorous protection from grazing, fires and exploitation, along with soil conservation work, will ensure the recovery of some vegetative cover and is usually the cheapest option; it may, however, entail serious loss of benefits to poorer stakeholders.

68. Plantations may contain single species or mixtures, indigenous or exotic. Introduced species may have a rehabilitation capacity that indigenous species do not, such as an ability to deep-root in degraded or lateritic soils or to withstand drought and high winds on sand dunes. Introduced species of cash crops, forage or domestic animals may meet the aspirations of farmers better than local species. An exchange of information between technical foresters and local people, giving full weight to traditional forest-related knowledge, could result in a better choice of species.

IV. PREPARATIONS FOR SUBSTANTIVE DISCUSSION

69. The issues listed under category II.d in the first report of IFF are scheduled for substantive discussion at the third session of the Forum. To facilitate that discussion, a report which describes the issues in greater detail will be prepared. The Forum may wish to guide preparations for the report by identifying matters that need further analysis and elaboration and by considering some of the questions raised in this note.

Notes

[1] E/CN.17/1997/12, para. 28 (a).

[2] See A/AC.241/27.

[3] Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigenda), resolution 1, annex II.

[4] Ibid.

[5] Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests. Ibid., annex III.

[6] See United Nations Environment Programme, Convention on Biological Diversity (Environmental Law and Institutions Programme Activity Centre), June 1992.

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Category III

International arrangements and mechanisms to promote the management, conservation and sustainable development of all types of forests

Note by the Secretariat

SUMMARY

This note focuses on the substantive elements of international arrangements and mechanisms to promote the management, conservation and sustainable development of all types of forests. It describes some of the numerous existing arrangements and mechanisms with components relevant to forests and/or which contain forest-related substantive elements on which there is consensus. The Forest Principles and the conclusions and proposals for action of the Ad Hoc Intergovernmental Panel on Forests and of the Forum are the most holistic examples.

The mandate for IFF category III comprises three steps: identify possible elements, work towards consensus and engage in further action.

The note seeks guidance from the Forum in the preparation of the report that will be the basis for substantive discussion on category III at its third session. It also notes the offer by the Government of Costa Rica to host an initiative on this category in early 1999.

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I. MANDATE AND SCOPE

A. Mandate

1. The Intergovernmental Forum on Forests (IFF) decided at its first session that the discussion of category III would be guided by the following mandate:

> "Identify elements, build a global consensus and engage in further action. The Forum should also identify the possible elements of and work towards a consensus on international arrangements and mechanisms, for example, a legally binding instrument on all types of forests. The Forum will report on its work to the Commission on Sustainable Development in 1999. Based on that report and depending on the decision taken by the Commission at its eighth session, the Forum will engage in further action on establishing an intergovernmental negotiation process on new arrangements and mechanisms or a legally binding instrument on all types of forests."[1]

B. Scope

2. This note was prepared to facilitate background discussion by IFF at its second session and to seek guidance from IFF in preparation of the report that will be the basis for substantive discussion at its third session.

3. It provides a brief review of international deliberations on forests over the past decade and of the discussions related to this category which took place in the Ad Hoc Intergovernmental Panel on Forests (IPF). It focuses on the substantive elements of international arrangements and mechanisms; it does not identify structural elements, such as obligations, definitions, protocols, subcommittees or procedures (which are often an integral part of legally binding instruments). Annex I lists some existing arrangements and mechanisms, and annex II lists the substantive elements in three legally binding instruments.

4. The elements presented in this note are primarily drawn from the Forest Principles[2] and the programmes of work of the Panel and IFF, which collectively, represent current consensus on priority areas of international concern.

II. BACKGROUND

A. International deliberations on forests

5. Forests have been a major focus of international policy debate during the past decade. They were a contentious and sensitive issue in the deliberations leading up to and during the United Nations Conference on Environment and Development. The three-year period following the Conference, on the other hand, was a time of North/South confidence-building. It saw the launching of important and ground-breaking country-led initiatives, including the Conference on Global Partnerships in Forests, sponsored by Indonesia; the Malaysia/Canada Initiative, the India/United Kingdom Initiative, and several regional processes on criteria and indicators for sustainable forest management. At its third session, in 1995, the Commission on Sustainable Development reinitiated

intergovernmental deliberations on forests when it reviewed the Forest Principles and chapter 11 of Agenda 21,[3] "Combating deforestation". The result of that review was the establishment of the Ad Hoc Intergovernmental Panel on Forests, with a two-year mandate for its programme of work.

6. Programme element V.2 of the programme of work of the Panel focused on international organizations and multilateral institutions and instruments. The mandate of the programme element called for consideration of and advice on the need for other instruments or arrangements for implementation of the Forest Principles. The Panel scheduled discussions on programme element V.2 for its third session. In the limited time available, it was able to discuss only the form that potential instrument or arrangement might take - legally binding or non-legally binding - and not the substantive elements. The conclusions and proposals for action of the Panel at the conclusion of its work resulted in the establishment of IFF, for continued intergovernmental forest policy dialogue. At its nineteenth special session, the General Assembly decided that the Forum should identify the elements of and work towards consensus on international arrangements and mechanisms.

B. The international forest policy agenda

7. Forests have emerged as a priority issue on national, regional and international policy and political agendas. That emergence has been precipitated by concerns associated with:

(a) The alarming rate of deforestation and the degradation and decline of forests and other wooded lands, with a resultant loss of environmental values;

(b) The ability to ensure that future demand for forest products, services and environmental benefits will be met in a sustainable manner;

(c) Actions that benefit from unsustainable forestry practices and constraints in international trade and forest products;

(d) Inadequate coordination and integration of cross-sectoral, forest-related action at the global, regional and national levels.

8. There now exists broad consensus on the principles of and overarching approaches to sustainable forest management. The United Nations Conference on Environment and Development and the Panel's proposals for action reaffirmed the rights of countries to manage and utilize their forests to meet their national priorities and policy objectives. Consensus also exists on the need to manage forests and other wooded lands as ecosystems and to develop and implement national forest programmes as tools for cross-sectoral policy harmonization and international cooperation.

9. To derive multiple benefits from the sustainable management of forests and other wooded lands will require strong political commitment, the participation of a range of interest groups and beneficiaries and recognition of the transboundary, regional and global dimensions of the consequences of forest management. Consequently, approaches to sustainable forest management must

reconcile national priorities and international considerations, at the transboundary, regional and global levels and be applied in the context of the economic, social, environmental and political realities and priorities of individual countries or regions.

10. Forests have multiple constituencies, with both complementary and conflicting interests. At present a range of special-interest groups, institutions and instruments interface with forests at the national, regional and global levels. All have a narrow perspective of their goals, focusing on specific functions and outputs (i.e., "demands") of forests, such as biological diversity, carbon sequestration, trade in endangered species, international trade in certified forest products etc. Lacking the holistic perspective of management, conservation and sustainable development of all types of forests, the forest agenda lacks a cohesive and comprehensive implementation framework and does not adequately address the fundamental need to maintain the health and productive capacity of forest ecosystems as a whole and thereby to ensure that the conditions in which forests can sustainable "supply" a wide range of functions and outputs are present.

11. The Intergovernmental Forum on Forests faces the challenge of consolidating and building on the present consensus on forests, formulating a unified framework and identifying possible elements of an international arrangement or mechanism - for example, a legally binding instrument - that would govern the management, conservation and sustainable development of all types of forests.

III. IDENTIFICATION OF POSSIBLE SUBSTANTIVE ELEMENTS

12. Legally binding and non-legally binding arrangements and mechanisms differ in terms of the degree of obligation and intent. A legally binding instrument (e.g., treaty, convention) usually entails legal obligations on the part of the countries that are parties to it (those that have signed and ratified it). Non-legally binding instruments (e.g., action plans, processes or principles, such as the Forest Principles[2]) reflect political commitment and endorsement by countries. From a legal point of view, the two are difficult to compare. The real effectiveness of either type of instrument ultimately depends on the level of political will and commitment of the countries concerned.

A. Existing arrangements and mechanisms with forest-related components

13. There are numerous arrangements and mechanisms, legally binding and non-legally binding, which contain forest-related substantive elements on which there is consensus. A listing of such agreements and instruments can be found in annex I below and in the report of the Secretary-General on IFF programme element II.e(ii), "Forest-related work under existing instruments", (E/CN.17/IFF/1998/11), which also contains descriptions and short assessments.

14. All arrangements and mechanisms contain elements addressing specific concerns. Substantive elements drawn from three legally binding instruments relevant to forests - namely, the Central American Convention on Forests; the

Convention on Biological Diversity; and the International Tropical Timber Organization - are listed in annex II. In these three instruments, the elements reflect obligations by parties. In some cases, subsidiary programmes established by participating countries are not reflected in the annex.

15. There are also several non-legally binding international, regional, local, non-governmental and private initiatives that are worth mentioning in this context. These include the certification initiatives, the criteria and indicator processes, sustainable forest management initiatives by the forest industry in some countries, and standard-setting efforts. These initiatives are either specifically aimed at forests or contain components relevant to forests and also contain substantive elements that could be useful in a discussion on forests at the international level. The elements reflect collective endorsement and stated will by the countries concerned, but have no legally binding obligations.

16. Forest-specific arrangements and mechanisms at the international level, notably the Forest Principles and the Panel's proposals for action, are not legally binding, but they are the most holistic so far, reflect negotiated agreement and consensus at the international level and contain elements that provide a useful basis for discussions on category III.

B. Framework and possible elements

17. This section provides the Forum with a starting point for engaging in the three steps outlined in the mandate for category III and proposes options on how to proceed. It is meant to solicit comments and guidance from the Forum.

18. In the note by the Secretariat on IFF programme element I.b on Monitoring progress in implementation of the Panel's proposals for action (E/CN.17/IFF/1998/6), it is suggested that one basis for a framework might be economic and social development and environmental protection, on the one hand, or management, conservation and sustainable development of all types of forests, on the other, or a mix of both. For monitoring, reviewing and reporting, it is suggested that the former be used, with an additional component "Institutions and policy instruments".

19. Another option would be to cluster possible elements to reflect economic, social and environmental functions and values. It, too, would need an additional component reflecting institutions and policy instruments. (A third option is the mix of the two other options.) Examples of possible elements under the first two options can be found below. (It should be noted that the elements are not exclusive to any particular option.)

OPTION 1. Management, conservation and sustainable development

Management

- Criteria and indicators
- Rehabilitation of fragile ecosystems
- Reforestation and afforestation

Conservation

- Forest conservation and protection
- Soil and water conservation
- Carbon storage and sequestration

Sustainable development

- Valuation of multiple benefits
- Forest investment
- International trade in forest products and services

OPTION 2. Economic, social and environmental functions and values

Economic functions and values

- International trade in forest products and services
- Goods and services provided by forests

Social functions and values

- Participation in decision-making
- Traditional use
- Rights and responsibilities of communities living in and around forests

Environmental functions and values

- Forest ecosystem health and vitality
- Habitats for biodiversity, carbon sequestration
- Soil and water conservation

Institutions and policy instruments

- National forest programmes
- Economic instruments and tax policies
- Forest assessment
- Institutional capacity
- Cross-sectoral policy harmonization
- International cooperation

20. The Forest Principles are considered to provide the fundamental basis for international forest policy dialogue. Therefore, for the purpose of initiating background discussion, the Forum may wish to consider using management, conservation and sustainable development (option 1) as a framework for identifying possible elements.

21. As a point of departure for identifying possible elements, it is suggested that the Forum draw upon the Forest Principles, the Panel's programme of work, and the IFF programme of work. In the table below, some of the elements included in those three instruments have been grouped within the above-identified framework of option 1. Whereas the listing in the table may not cover the entire agenda on forests, many of the elements are reflected in other arrangements, both legally binding and non-legally binding.

Table. Possible substantive elements within a framework based on the management, conservation and sustainable development of all types of forests

Areas of concern for all types of forests	Elements	Forest Principles	Programme of work	
			IPF	IFF
Management	National forest programmes	2(a), 2(b), 3(a), 5(a), 6(b), 6(d), 8(c), 8(d), 8(f), 8(g), 8(h), 9(c)	I.1	I.a
	Criteria and indicators	8(d)	III.2	I.a, I.b
	Forest assessment	2(c), 8(h), 12(a), 12(c)	III.1(a)	I.a, I.b
	Forest research	12(a), 12(c)	III.1(c)	II.d(4)
	Rehabilitation of fragile ecosystems	4, 8(b)	I.4, I.5	II.d(3)
	Reforestation and afforestation	6(d), 8(a), 8(b)	I.4, I.5	II.d(8)
	Traditional forest-related knowledge	5(a), 8(g)	I.3	II.d(2)
Conservation	Forest conservation and protection	7(b), 8(a), 8(f)	I.5	II.d(3)
	Soil and water conservation/carbon storage and sequestration	4	I.1	II.d(5), (6), (7)
	Biological resources and diversity	8(g)	I.3, III.a	II.c, II.d(2)
	Recreation and tourism	1(b)		
	Cultural and spiritual values	1(b), 5(a)		
Sustainable development	Supply, demand, consumption and production	4(b), 7(a)	III.1, II	II.d(7)
	Valuation of multiple benefits	6(c), 9(a)	III.1(b)	II.d(5)

.../...

Areas of concern for all types of forests	Elements	Forest Principles	Programme of work	
			IPF	IFF
	Forest investment	7(b), 10	II	II.a, II.c
	Forest and forest products industry	7(b), 15	II, IV	II.a, II.c
	Access to and transfer of environmentally sound technologies	7(c), 8(c), 8(g), 11	II	II.c
	International trade in forest products and services	13(a)	IV	II.b
	Market access	9(a), 13(b), 14	IV	II.b
	Certification		IV	II.b
	Cost internalization	13(c)	II, IV	II.a, II.b
	Employment	1(b)	I.1	II.c, II.d(6)
	Economic instruments, tax policies and land tenure	5(a), 7(a), 7(b), 13(c), 13(d), 13(e)	I.2, II	II.d(6)
Institutions and policy instruments	International cooperation	3(b), 7(b), 7(c), 10	II, V.1	II.a, II.e
	Institutional capacity-building	3(a), 12(b), 12(d)	I.1, V.1	II.e
	Education and training	12(b)	I.1, III.1(c)	II.c, II.d(4)
	Participation by major groups and women	1(d), 2(d), 5(a), 5(b)	I.1, I.3	I.a, II.c

IV. BACKGROUND DISCUSSION AND PREPARATION OF THE REPORT FOR THE THIRD SESSION OF IFF

22. This note has proposed ways to approach the background discussion of category III and to prepare for the substantive discussion at the Forum's third session. It has presented a framework that could be used to systematize the identification of possible elements and provided examples of possible elements.

23. The Forum may wish to consider the following questions for the background discussion:

(a) Is the approach of using management, conservation, sustainable development, and institutions and policy instruments of all types of forests adequate as a framework to achieve the objectives of category III of the IFF's programme of work?

(b) Does the table reflect the priority concerns of countries in a comprehensive manner?

(c) Are there elements that might be added, deleted, or reformulated in preparation for the substantive discussion?

(d) What other issues need further analysis before the third session?

24. The substantive discussion will also be able to draw upon the following: the outcome of a government-led initiative hosted by Costa Rica, to be held in early 1999; and the report of the Secretary-General on category III, which will take into account the background discussion at the second session.

Notes

[1] E/CN.17/IFF/1998/4.

[2] See Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigenda), resolution 1, annex III, Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests.

[3] Ibid., annex II.

Annex I

SELECTED EXISTING ARRANGEMENTS AND MECHANISMS

Legally binding

A. Global

1. Ramsar Convention on Wetlands of International Importance, Especially as Waterfowl Habitat

2. Convention for the Protection of the World Cultural and Natural Heritage

3. Convention for the Protection of the Ozone Layer

4. United Nations Framework Convention on Climate Change

5. Convention on Biological Diversity

6. United Nations Convention to Combat Desertification in Those Countries Experiencing Drought and/or Desertification, Particularly in Africa

7. Convention Concerning Indigenous and Tribal Peoples in Independent Countries

8. Convention on International Trade in Endangered Species of Wild Flora and Fauna

9. International Tropical Timber Agreement

10. General Agreement on Tariffs and Trade/World Trade Organization

B. Regional

11. Convention on Long-Range Transboundary Air Pollution

12. Treaty for Amazon Cooperation

13. Central American Convention on Forests

14. Lomé IV Convention

15. Alpine Convention

16. North American Free Trade Agreement

17. Treaty Establishing the Common Market for Eastern and Southern Africa

C. Treaty-based organizations

18. African Timber Organization (ATO)

19. Centre for International Forestry Research (CIFOR)

20. European Commission (EC)

21. International Monetary Fund (IMF)

22. International Tropical Timber Organization (ITTO)

23. Organization of American States (OAS)

24. Organisation for Economic Cooperation and Development (OECD)

25. Regional development banks:

    African Development Bank (AfDB)

    Asian Development Bank (ADB)

    Inter-American Development Bank (IADB)

    European Bank for Reconstruction and Development (EBRD)

26. United Nations

27. Food and Agriculture Organization of the United Nations (FAO)

28. United Nations Educational, Scientific and Cultural Organization (UNESCO): Man and the Biosphere Programme

29. World Bank

    International Finance Corporation (IFC)

    Multilateral Investment Guarantee Agency (MIGA)

30. World Trade Organization

    Committee on Trade and Environment

Non-legally binding

A. Organizations and forums

1. Asia Pacific Economic Cooperation (APEC)

2. Association of South-East Asian Nations (ASEAN)

3. International Boreal Forest Research Association (IBFRA)

4. International Center for Agroforestry Research (ICRAF)

5. International Center for Plant Genetics (ICPG)

6. Intergovernmental Panel on Climate Change (IPCC)

7. International Undertaking on Plant Genetic Resources (IUPRG)

8. International Union for Conservation of Nature (IUCN)

9. International Union of Forestry Research Organizations (IUFRO)

10. South Pacific Forum

B. Initiatives, processes and other political commitments

11. United Nations programmes (created by the General Assembly or FAO)

United Nations Development Programme (UNDP)

United Nations Environment Programme (UNEP)

United Nations Conference on Trade and Development (UNCTAD)

World Food Programme

FAO regional commissions

12. Agenda 21

Chapter 11. Combating deforestation

13. Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles)

14. Commission on Sustainable Development

Intergovernmental Forum on Forests (IFF)

15. Criteria and indicators for sustainable forest management

ITTO

Pan-European Helsinki Process (Helsinki Declaration)

Montreal Process Working Group (Santiago Declaration)

Tarapoto Proposal

Central America Initiative

Dry Zone Africa Initiative

Near East Initiative

African Timber Organization

16. Global Environment Facility (GEF)

Climate change and biodiversity windows

17. G-7 Pilot Programme to Conserve the Brazilian Rain Forest (PPG 7)

18. G-8 Forest Action Programme

19. Plan of Action for the Sustainable Development of the Americas

Annex II

SUBSTANTIVE ELEMENTS IN THREE INTERNATIONAL LEGALLY BINDING INSTRUMENTS

Arrangement/mechanism	Substantive elements
Central American Treaty	Protected areas
Status: Legally binding	Agricultural issues
Scope: Regional	Rehabilitation of primary and secondary forest
	Reforestation
	Fuelwood
	Management of primary natural forests, buffers
	Forest inventory
	National funds
	Investment, credit access
	International financial cooperation
	National resource accounting
	Illegal traffic and trade
	Public participation
	Institutional capacity
	Sectoral, intersectoral coordination
	National action plans
	Environmental assessment
	Technical capacity and training
	Applied research
	Enforcement

International Tropical Timber Organization	International trade in tropical timber
Status: Legally binding	Economic information
Scope: Tropical forests	Market statistics
	Reforestation, rehabilitation
	Forest management
	Lesser-known and lesser-used species
	Human resource development
	Product development and marketing
	Nomenclature and specifications
	Technical assistance and cooperation
	Transfer of technology and knowledge
	Investments and joint ventures
	Financial resources
Convention on Biological Diversity	Conservation and sustainable use
Status: Legally binding	Identification and monitoring
Scope: Global	In-situ and ex-situ conservation
	Sustainable use of components
	Incentive measures
	Research and training
	Public education and awareness
	Impact assessment
	Access to genetic resources
	Access to and transfer of technology
	Exchange of information
	Technical and scientific cooperation
	Biotechnology and benefit distribution
	Financial resources